

S.N. 10/759,250

Dkt. 503.43406X00

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Canceled without prejudice or disclaimer).

2. (currently amended) The fuel injector of ~~claim 1 claim 3~~, wherein
said control unit sets a reference value of a power voltage and outputs a
changeover signal by which, when a value that has been detected by said power
supply voltage detection means is less than said reference value , said coils are
reduced in resultant inductance, and when the power supply voltage detection value
is greater than said reference value, said coils are increased in resultant inductance.

3. (currently amended) The A fuel injector according to claim 1 or 2 system
comprising:

a direct-current power supply,
a power supply voltage detection means, a coil-equipped fuel injection valve,
and
a control unit for controlling said fuel injection valve; wherein said fuel injection
valve has a plurality of coils, and said control unit outputs a changeover signal for
changing the magnitude of the resultant inductance of the plurality of coils of said

fuel injection valve in accordance with a power supply voltage detection value sent from said power supply voltage detection means, wherein

 said fuel injection valve has at least two coils, and said control unit outputs a connection changeover signal for connecting said plurality of coils in parallel to set the resultant inductances thereof to small values and for changing said plurality of coils to a series connection to obtain large resultant inductance values.

4. (currently amended) The fuel injector of claim 1 or 2 claim 2 or 3, wherein

 said control unit outputs said changeover signal to control the resultant inductance of the plurality of coils of said fuel injection valve when a power supply voltage reference value that has been set beforehand is reached.

5. (currently amended) The fuel injector of claim 1 or 2 claim 2 or 3, wherein

 said control unit effects control so that a current is supplied to said plurality of coils of said fuel injection valve by constant-current limitation.

6. (Previously Presented) A control method for use in a fuel injector system which comprises:

 a direct-current power supply,

 a power supply voltage detection means, a fuel injection valve with at least two coils, and

 a control unit for controlling said fuel injection valve; wherein said control method comprises the steps of:

 detecting that a voltage detected by said power supply voltage detection means has decreased to a value that has been set beforehand;

creating a connection changeover signal of at least said two coils in response to said detection, changing the connection of the coils to reduce the resultant inductance thereof, and

conducting control so that the time-varying characteristics of total magnetomotive force are approximately maintained at the characteristics existing before the power supply voltage decreased.